

Appl. No. : 10/781,247
Filed : February 18, 2004

AMENDMENTS TO THE CLAIMS

Please amend Claims 1 and 6 as follows. Insertions are shown underlined while deletions are ~~struck through~~.

1 (currently amended): A thin-film deposition system comprising:

an evacuable plasma CVD reactor comprising a susceptor and a showerhead which are lower and upper electrodes capacitively coupled for forming plasma discharge therebetween;

an RF power generator arranged outside the plasma CVD reactor for forming plasma discharge between the susceptor and showerhead;

a remote plasma chamber arranged outside the plasma CVD reactor, for providing active species to an interior of the plasma CVD reactor; and

an electromagnetic wave generator arranged outside the plasma CVD reactor, the RF power generator, and the remote plasma chamber, for emitting electromagnetic waves to the interior of the reactor, said electromagnetic wave generator being connected to a side wall of the reactor at a position between the showerhead and the susceptor and closer to the showerhead than to the susceptor for cleaning an inner surface of the reactor and the showerhead.

2 (original): The system according to Claim 1, wherein the electromagnetic waves are microwaves.

3 (original): The system according to Claim 1, wherein the reactor and the electromagnetic wave generator are connected by a waveguide.

4 (original): The system according to Claim 3, wherein the reactor comprises a sapphire window where the waveguide is connected.

5 (original): The system according to Claim 1, wherein the reactor and the electromagnetic wave generator are connected by a co-axial cable.

6 (currently amended): The system according to Claim 1, further comprising a controller which is set programmed to activate the electromagnetic wave generator only for reactor cleaning and which activates the electromagnetic wave generator only for reactor cleaning.

7 (previously presented): The system according to Claim 1, wherein the electromagnetic wave generator is connected to a side wall of the reactor in a direction perpendicular to an axis of the susceptor and the showerhead.

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8 (original): The system according to Claim 1, wherein the remote plasma generates an inductively-coupled plasma.

9-22 (canceled)

23 (previously presented): The system according to claim 2, wherein the microwaves have a wave length effective to facilitate cleaning of the inner surface of the reactor.

24 (previously presented): The system according to claim 23, wherein the microwaves have a wave length of 3×10^{-4} to 3×10^{-1} m or a frequency of 1 to 1000 GHz.

25 (previously presented): The system according to claim 24, wherein the microwaves have ultrahigh frequencies of 0.3-3 GHz.

26 (previously presented): The system according to claim 1, wherein the electromagnetic waves have power effective to facilitate the cleaning of the inner surface of the reactor.

27 (previously presented): The system according to claim 26, wherein the electromagnetic waves have power in the range of 100-5,000 W.

28 (previously presented): The system according to claim 7, wherein the reactor and the electromagnetic wave generator are connected by a waveguide.

29 (previously presented): The system according to Claim 28, wherein the reactor comprises a sapphire window where the waveguide is connected.